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Docket 79797PAL
Customer No. 01333

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

Peter T. Aylward, et al

FINGERPRINT PROTECTION
FOR CLEAR PHOTOGRAPHIC
SHIELD

Serial No. US 09/705,545

Filed 03 November 2000

Commissioner for Patents
Box AF
Washington, D.C. 20231

Sir:

Group Art Unit: 1752

Examiner: R. Schilling

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Robin DePoint
Robin DePoint

June 27, 2002
Date

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APPEAL BRIEF TRANSMITTAL

Enclosed herewith in triplicate is Appellants' Appeal Brief for the above-identified application.

The Commissioner is hereby authorized to charge the Appeal Brief filing fee to Eastman Kodak Company Deposit Account 05-0225. A duplicate copy of this letter is enclosed.

Respectfully submitted,

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APPEAL BRIEF PURSUANT TO 37 C.F.R. 1.192



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APPELLANT'S BRIEF ON APPEAL

Appellants hereby appeal to the Board of Patent Appeals and Interferences from the Examiner's Final Rejection of claims 22-39 which was contained in the Office Action mailed January 31, 2002.

A timely Notice of Appeal was filed May 9, 2002.

Real Party In Interest

As indicated above in the caption of the Brief, Eastman Kodak Company is the real party in interest.

Related Appeals And Interferences

No appeals or interferences are known which will directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

Status Of The Claims

Claims 40 and 41 are allowed.

Claim 38 has been cancelled.

Claims 22-37 and 39 are rejected.

Appendix I provides a clean, double spaced copy of the claims on appeal.

Status Of Amendments

An Amendment After Final was filed on April 19, 2002. In a response dated April 30, 2002, the Examiner advised that the Amendment After Final will be entered upon filing the Notice of Appeal and Appeal Brief.

Summary Of The Invention

This invention relates to a photographic element comprising a transparent polymer sheet, at least one layer comprising image formed by development of negative working silver halide and at least one upper protective shield to protect

the transparent polymer. The transparent polymer is adhered to a base material that is substantially opaque. This element differs from a typical photographic element in that the conventional photographic element has a gelatin layer over the image. A gelatin layer is necessary as the development solution must pass through the gelatin protective layer in order to develop the image. With the invention as claimed the transparent polymer bearing the photosensitive silver halide has been developed prior to being placed on a base. What was the transparent carrier sheet for the silver halide becomes the upper transparent layer and the image is viewed through this layer. However, even though a polymer sheet is used as the upper layer there continues to be a problem with protection of the polymer sheet from environmental abuse such as fingerprints, scratching and stains. The instant invention provides the photographic element with an upper protective shield on the upper polymer sheet to protect the polymer sheet.

In a preferred embodiment, the shield layer protects from fingerprints and comprises a lubricant such as wax or fatty acid derivatives. In a further embodiment, the shield layer has a scratch resistance including a scratch resistance, of greater than 3 grams.

Issues For Review By The Board

The following issues are presented for review by the Board of Patent Appeals and Interferences:

1. Whether claims 22-37 and 39 are unpatentable under 35 USC 103 over Trautweiler et al. in view of Tingler et al.

Grouping Of Claims

The following groups of claims are considered to be separately patentable:

- Group 1. Claims 22, 25, 28-32, 34-37, and 39, drawn to the photographic

element having an upper protective shield.

Group 2. Claim 23 drawn to a shield layer that protects the transparent polymer from fingerprints.

Group 3. Claims 24 and 27 drawn to the shield layer that protects the transparent polymer from fingerprints and comprises lubricant, film forming polymer binder and filler particles.

Group 4. Claims 26 and 33 drawn to an imaging member of having scratch resistance.

Arguments

The Rejection

Claims 22-39 stand rejected under 35 USC 103 as being unpatentable over the combination of Trautweiler et al., Tingler et al. (014) and Tingler et al. (505) for the reasons set forth in paragraph 3 of the first Office Action filed Oct. 26, 2001. Examiner states the rejection in the Office Action of Oct. 26, 2001 as follows:

“Claims 1-41 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over the combination of Trautweiler et al., Tingler et al. ‘014 and Tingler et al. ‘505. Trautweiler et al. (see particularly column 5, lines 7-61) discloses photographic elements with thin transparent polymer supports which are adhered to base materials after exposure and processing. Tingler et al. ‘014 and Tingler et al. ‘505 discloses the need for anti-static layers on the opposite side of supports from silver halide emulsion layers in order to prevent static generation from film handling and processing. Therefore, it would be obvious to one skilled in the art to use anti-static backing layers on the photographic films of Trautweiler in order to prevent the generation of static electricity. It would also be obvious to one skilled in the art to use the protective backing layers as in Tingler et al. ‘014 and Tingler et al. ‘505 on these anti-static layers in

order to protect them during processing , prevent abrasion and reduce friction.”

This rejection is respectfully traversed and reversal is respectfully requested.

Argument

Trautweiler discloses a system for imaging wherein an image is formed on a transparent substrate and then the substrate is adhered to a base with the transparent sheet on the surface through which the silver halide formed image is viewed. There is no disclosure or suggestion in Trautweiler that the upper surface transparent sheet should be provided with a protective layer or shield to protect the surface from scratching, fingerprints or other damage. The two Tingler et al. patents disclose the formation of imaging elements provided with an electrically conductive layer and a protective overcoat layer that overlays the electrically conductive layer. The electrically conductive layer apparently is formed onto the base material and not the surface through which the image is viewed. There is no disclosure suggestion of formation of an image on a transparent member that is adhered to a base material. Further, there is no disclosure or suggestion that the protective layer of the Tingler et al. patents which is designed to protect the antistatic layer during photographic development would be suitable for protection from fingerprints and scratching. It appears that the protection is from chemicals during development. Therefore, there is no disclosure suggestion that would lead one to a shield layer for Trautweiler. The teaching of the Tingler et al. patents in the use of overcoats for protection from developers would not lead one to the instant invention which is protection of a finished image from environmental hazards such as scratching and fingerprints.

The instant claim 1 is directed to a developed image where antistatic action is not generally necessary. Tingler (505) is directed to a motion picture film and therefore not a material that has a base that is not transmissive as set forth in the instant claim. Further, each of the Tingler et al. references set forth

that the antistatic layer is on the base of the image structure and not over the top of the image as instantly claimed. There is no disclosure or suggestion to place a two layer antistatic layer such as disclosed in Tingler et al. references over the image for fingerprint protection. The Examiner states that would be obvious to provide antistatic protection to the elements of Trautweiler et al. as is done in the Tingler et al. references. However, there is no disclosure suggestion in these references of how to deal with an element that has a transparent base which will later become an the protective layer. There is no disclosure suggestion that the Tingler et al. antistatic layers also provide protection from environmental damage such as fingerprints. The layers of Tingler et al. protect antistatic material from losing its effectiveness but nowhere teach the desirability of scratch resistance and fingerprint resistance. This type of abuse would not generally disrupt antistatic protection but it is necessary to resist scratching and fingerprints for an image to remain in good condition as it is handled. The Examiner has provided no disclosure or suggestion that the Tingler et al. materials are suitable for the instant invention if applied as an overcoat or that they would be used with the claimed type of photographic product.

The Examiner apparently urges that the antistatic layer would be a "protective shield to protect the surface of sad transparent polymer". However, it is clear that a fair reading of the specification indicates that the shield is to protect from surface damage. Antistatic protection is to protect the silver halide from damage prior to development and to aid in feeding of the material through machines. It is not a shield for a viewing surface. There is no disclosure suggestion that the antistatic layers of the Tingler et al. references even if utilized in Trautweiler et al. would provide protection to the surface. Further, there is no disclosure to place the Tingler et al. layers on the upper surface above the image of a photographic element for any reason much less to provide a shield for the upper surface. Therefore, it is respectfully requested that the rejections over Trautweiler et al. in view of the Tingler et al. references to be reversed.

The Examiner in the Advisory Action of April 30, 2002 states in response to the applicants arguments after Final Rejection the following:

"The transparent polymer layer of Trautweiler is the support during exposure and processing to which antistatic layers would be applied."

The Examiner is apparently urging that it is obvious to place an antistatic layer on the Trautweiler et al. material prior to processing and that when Trautweiler was later applied to support it would act as a shield to the surface thereby forming the claimed invention. It is respectfully urged that there is no teaching to provide an antistatic layer in Trautweiler et al.. Further, there is no disclosure or suggestion that the antistatic layer would be on what eventually may be the upper surface of the photographic imaging member. Even if the Examiner's argument is followed and an antistatic layer appears on the upper surface, there is no disclosure suggestion that it is a shield for the surface from abrasion and fingerprints. It is clear in the instant specification that surface protection is intended and not antistatic protection except as an additive to the surface protection. Further, there is no teaching or suggestion that the Tingler et al. layers be modified or selected such that they will provide a shield to the surface of the photographic element.

Arguments as to separate patentability of Groups 2-4.

Group 2, claim 23, provides that the upper shield layer protects the transparent polymer from fingerprints. The Tingler et al. references do not disclose that the antistatic layers disclosed therein protect from fingerprints. Indeed the antistatic layers of Tingler et al. are placed on the support rather than over the image. Therefore, fingerprint detection would not be important when the Tingler et al. antistats were utilized in a photographic print material. Claim 23 is clearly limited to protection from fingerprints and therefore even if the shield for the surface language of the claims is interpreted to somehow include shielding from static, there is no disclosure suggestion that would lead one to modification of the Tingler et al. references and Trautweiler et al. to provide a shield layer to protect from fingerprints on the upper surface of a photographic element such as

claimed. Trautweiler et al. is silent as to protective layer and the Tingler et al. references only disclose antistatic protection. There is no teaching of a combination that would provide fingerprint protection to the transparent polymer. Therefore, it is respectfully requested that the rejection of Group 1, claim 23, be reconsidered and reversed.

Group 3, claims 24 and 27 relate to the upper shield layer comprising lubricants, film forming polymeric binder, and filler particles. The lubricant is specified as selected from a listed group of materials as are the filler particles. As above urged, Trautweiler et al. and the two Tingler et al. references do not disclose or suggest utilization of a shield for the surface of a photographic element. Even if the antistatic static layers are considered to be some sort of a shield, they are located adjacent to base and not over the image. Claims 24 and 27 specify that the shield is to protect from fingerprints, they are dependent on claim 23, and further claims 24 and 27 specify particular lubricant and particle materials that are desirable for this use in the shield layer to provide fingerprint protection. Therefore, it is respectfully requested that the rejection of these claims 24 and 27 under 35 USC 103 be reconsidered and reversed as these claims contain limitations not suggested by any of the references, and the Examiner has provided no teaching which would lead one of skill in the art to provide fingerprint protection utilizing the materials as specified in claims 24 and 27 in a shield layer.

Group 4. Claim 26 and 33 relate to providing a surface shield layer that prevents scratching (claim 26) and has a scratch resistance of greater than 3 grams (claim 33). There is no disclosure suggestion to place a surface shield layer having scratch resistance properties onto the upper surface of the Trautweiler element. The Tingler et al. references do not deal with protection of the upper surface as both references deal with the provision for anesthetic layers that are adjacent to the base material that is opposite the upper viewable surface. There is no disclosure suggestion in any of the three references that if the antistatic layers of the Tingler et al. references were placed on the upper surface over the image that they would provide scratch resistance. Further, as above stated, there is no disclosure suggestion to place the antistatic layers over the surface for any reason

much less for scratch protection. Therefore, is respectfully urged that the rejection of claims 26 and 33 be reconsidered and reversed.

Summary


Therefore, for the above reasons, it is respectfully requested that the rejection of all claims over Trautweiler et al. in view of the two Tingler et al. references be reversed. There is no disclosure suggestion of the placement of a shield for the surface of polymer layer on the viewable surface of the imaging element as claimed. Trautweiler has a similar element, without a surface shield layer on the polymer layer. The Tingler et al. references provide antistatic layers that are in contact with the substrate and not above the image. There is no disclosure or suggestion that the combination suggested by the Examiner would result in the claimed invention or that the combination is obvious. Further, even if it was considered obvious that an antistatic layer was a "shield for the surface" there is no disclosure suggestion of the lubricant as claimed, the scratch resistance as claimed, or of the fingerprint protection as claimed in the Groups 2, 3 and 4. Therefore, it is respectfully urged that the patentability of Groups 2, 3, and 4 is particularly clear as the properties suggested for the surface protection layer are nowhere disclosed or suggested in the references cited by the Examiner.

Conclusion

For the above reasons, Appellants respectfully request that the Board of Patent Appeals and Interferences reverse the rejection by the Examiner and mandate the allowance of Claims 22-39.

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Respectfully submitted,



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Appendix I - Claims on Appeal

22. A photographic element comprising a transparent polymer sheet, at least one layer containing an image formed by development of negative working photosensitive silver halide and at least one upper protective shield to protect the surface of said transparent polymer, and adhesively adhered to the lower side of said element a base material wherein said base is substantially opaque and has a transmission of less than 15 percent.

23. The photographic element of Claim 22 wherein said upper shield layer protects said transparent polymer from fingerprints.

24. The photographic element of Claim 23 wherein said upper shield layer comprises lubricants, film-forming polymeric binder and filler particles wherein said lubricant is selected from the group consisting of silicates, silicone based materials, fatty acids, fatty acid derivatives, alcohols, alcohol derivatives, fatty acid esters, fatty acid amides, polyhydric alcohol esters of fatty acids, paraffin, carnauba wax, natural waxes, synthetic waxes, petroleum waxes, mineral waxes, and fluoro-containing materials wherein said film forming binder is selected from the group consisting of polyurethanes, cellulose acetates, poly(methyl methacrylate), polyesters, polyamides, polycarbonates, polyvinyl acetate, proteins, protein derivatives, cellulose derivatives, polysaccharides, poly(vinyl lactams), acrylamide polymers, poly(vinyl alcohol), derivatives of poly(vinyl alcohol), hydrolyzed polyvinyl acetates, polymers of methacrylates, polymers of alkyl acrylates, polymers of sulfoalkyl acrylates, polyamides, polyvinyl pyridine, acrylic acid polymers, maleic anhydride copolymers,

polyalkylene oxide, methacrylamide copolymers, polyvinyl oxazolidinones, maleic acid copolymers, vinyl amine copolymers, methacrylic acid copolymers, acryloyloxyalkyl sulfonic acid copolymers, vinyl imidazole copolymers, vinyl sulfide copolymers, homopolymer containing styrene sulfonic acid, copolymers containing styrene sulfonic acid, gelatin and combinations thereof and wherein said filler particles are selected from the group consisting of matte beads, silica, glass beads, pigments, and polymeric beads.

25. The photographic element of Claim 23 wherein upper shield layer comprises wax esters of high fatty acids, silicates, carnauba wax, fluoro-containing materials, silica, polymeric beads, polyurethanes, polycarbonates and/or gelatin.

26. The photographic element of Claim 22 wherein said upper shield layer protects said transparent polymer sheet from scratches.

27. The photographic element of Claim 26 wherein said upper shield layer comprises lubricants, film-forming polymeric binder and filler particles wherein said lubricant is selected from the group consisting of silicates, silicone based materials, fatty acids, fatty acid derivatives, alcohols, alcohol derivatives, fatty acid esters, fatty acid amides, polyhydric alcohol esters of fatty acids, paraffin, carnauba wax, natural waxes, synthetic waxes, petroleum waxes, mineral waxes, and fluoro-containing materials wherein said film forming binder is selected from the group consisting of polyurethanes, cellulose acetates, poly(methyl methacrylate), polyesters, polyamides, polycarbonates, polyvinyl acetate, proteins, protein derivatives, cellulose derivatives, polysaccharides,

poly(vinyl lactams), acrylamide polymers, poly(vinyl alcohol), derivatives of poly(vinyl alcohol), hydrolyzed polyvinyl acetates, polymers of methacrylates, polymers of alkyl acrylates, polymers of sulfoalkyl acrylates, polyamides, polyvinyl pyridine, acrylic acid polymers, maleic anhydride copolymers, polyalkylene oxide, methacrylamide copolymers, polyvinyl oxazolidinones, maleic acid copolymers, vinyl amine copolymers, methacrylic acid copolymers, acryloyloxyalkyl sulfonic acid copolymers, vinyl imidazole copolymers, vinyl sulfide copolymers, homopolymer containing styrene sulfonic acid, copolymers containing styrene sulfonic acid, gelatin and combination thereof wherein said filler particles are selected from the group consisting of matte beads, silica, glass beads, pigments, and polymeric beads.

28. The photographic element of Claim 26 wherein said upper shield layer comprises wax esters of high fatty acids, silicates, carnauba wax, fluoro-containing materials, silica, polymeric beads, polyurethanes, polycarbonates, or gelatin.

29. The photographic element of Claim 22 wherein said upper shield layer protects said transparent polymer sheet from electrostatic charge accumulation.

30. The photographic element of Claim 29 wherein said upper shield layer comprises electrostatic charge control materials selected from the group consisting of conductive particles including doped-metal oxides, metal oxides containing oxygen deficiencies, metal antimonates, conductive nitrides, carbides, or borides.

31. The photographic element of Claim 29 wherein said upper shield layer comprises electrostatic charge control materials selected from the group consisting of tin oxide and vanadium pentoxide.

32. The photographic element of Claim 29 wherein said upper shield layer has a surface resistivity of less than 10^{13} ohms per square.

33. The photographic element of Claim 26 wherein said upper shield layer has scratch resistance of greater than 3 grams.

34. The photographic element of Claim 22 wherein said upper shield comprises more than one functional layer.

35. The photographic element of Claim 22 wherein said transparent polymer sheet comprises oriented polyolefin polymer.

36. The photographic element of Claim 22 wherein said transparent polymer sheet comprises oriented polyester polymer.

37. The photographic element of Claim 22 wherein said transparent polymer sheet has a thickness between 6 and 100 micrometers.

39. The photographic element of Claim 22 wherein said base is white and reflective and comprises an upper surface whiteness of at least an L^* of 93.5 and a b^* of less than 2.0.